

# **Scaling Up Content-Area Academic Literacy in High School English Language Arts, Science and History Classes for High Needs Students**

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## **Response to Competitive Preference Priority 7**

WestEd's Strategic Literacy Initiative (SLI) is applying for Investing in Innovation funding under *Competitive Preference Priority 7 – Innovations that address the unique learning needs of substantial numbers of students with limited English proficiency*. Adolescent English language learners (ELLs), who must acquire the language at the same time they are learning subject matter content (Short & Fitzsimmons, 2007), often experience substantial achievement lags. Fully 70% of 8<sup>th</sup> grade ELL students scored below basic in reading in recent NAEP testing (NCES, 2007). Educational policies often assume that ELLs begin their English education in the early elementary grades and have been reclassified as fluent speakers by the time they enter secondary school. In reality, however, a large and growing number of ELLs are middle and high school students, including both recent immigrants who may have substantial gaps in their formal education, and large numbers of long-term ELLs who have not reached proficiency in academic English or other coursework (Capps, et al., 2005). As a result, secondary school ELLs experience significant, and often unmet, needs.

We propose to implement Reading Apprenticeship (RA), a model of academic literacy instruction, in high school subject areas in partnering LEAs serving significant populations of ELLs. RA includes instructional strategies such as explicit comprehension strategy instruction, vocabulary and academic language development techniques, text-based discussion, and writing to learn and consolidate understanding. These methods are effective for all learners, but especially important for ELLs, to assist them in developing in all four of the language acquisition domains: reading, writing, speaking, and listening (Nagy & Scott, 2000). Rigorous experimental studies as well as quasi-experimental evaluations have shown RA implementation to benefit English learners, as will be detailed below. In one such study, ELLs in RA classes made significant achievement gains in state standardized tests of reading comprehension and biology learning, compared to control students. Moreover, ELLs in RA intervention classes reported more positive perceptions of their abilities as students and confidence in their ability to read complex materials in science, compared to ELLs not exposed to the intervention.

## A. Need for the Project and Quality of the Project Design

**Largely unmet need** - The new Common Core Standards scheduled for adoption by 48 states call for students to demonstrate advanced literacy proficiency not only in English classes but also in academic subjects such as science and history (NCCSSO & NGA, 2010a). State consortia stand ready to develop new assessments that will measure students' progress toward these advanced learning goals (AEE, 2010). *All* students must be prepared to meet these rigorous academic standards necessary to succeed in college and career, including students with high needs such as English learners, low-income students, minority populations that experience persistent achievement gaps, and students at risk of not graduating from high school. However, to meet this goal, the U.S. educational system must overcome the academic literacy crisis plaguing our nation's high schools (ACT, 2007; Berman & Biancarosa, 2005).

Nationally, two thirds of high school students are unable to read and comprehend complex academic materials, think critically about texts, synthesize information from multiple sources, or communicate clearly what they have learned (NAEP, 2006; 2007; 2009; Snipes & Horwitz, 2008). According to national assessments, only 3% of U.S. 8<sup>th</sup> and 12<sup>th</sup> graders read at an advanced level, while fully two-thirds of our adolescents score below proficient in reading (NAEP, 2006; 2007; 2009). Many high needs students have been demoralized by years of academic failure and do not see themselves as readers or capable learners (Dweck, 2002). Achievement gaps are stubbornly persistent along racial/ethnic and socioeconomic lines (Jencks & Phillips, 1998; NAEP, 2007). By some estimates, half of the incoming 9<sup>th</sup> graders in a typical high-poverty urban high school read at a 6<sup>th</sup> or 7<sup>th</sup> grade level (Balfanz, McPartland, & Shaw, 2002).

Without a substantial change in their academic literacy, U.S. high school students face continued academic problems in high school and college because they are unable to handle the quantity and complexity of assigned reading (ACT, 2005; 2006). They are likely to struggle in the workforce as well; even for entry-level jobs, the ability to read, write, and think critically is increasingly a minimum requirement (ADP, 2004; NCEE, 2006). Despite the recognized and widespread need for adolescent literacy development in the upper grade levels, *very few schools and districts provide the needed academic literacy instruction*, particularly in the subject areas

where is it most critically absent (CCAAL, 2010; Lee & Spratley, 2010).

In large part, high school teachers are unprepared to meet this challenge, not knowing how to simultaneously build students' academic literacy skills and engage them in a rigorous curriculum of subject area study (Greenleaf & Shoenbach, 2004; Shanahan & Shanahan, 2008). Instead, teachers typically reduce their expectations if students struggle with literacy, and this "literacy ceiling" becomes their *de facto* achievement ceiling, undermining their academic futures and life chances. But to meet the high standards of the Common Core, subject-area teachers must develop both the skill and the will to take up this challenge, requiring a paradigm shift in their beliefs and instructional practices. As noted above, literacy mediates students' access to the full range of subject matter, and low levels of adolescent literacy have contributed to the broader academic performance crisis among U.S. high school students in English, math, science, and history (Barton, 2003). As students move up the grade levels, they encounter increasingly complex forms of texts, and the writing and reading skills required to succeed in academic subjects increase significantly (Snow, 2002). To build the advanced literacy skills that high school subjects demand, teachers must help students to develop the capacity to draw inferences from academic texts, synthesize information from various sources, and follow complex directions (Heller & Greenleaf, 2007).

Recent literacy research has identified the instructional characteristics necessary to meet the unique needs of adolescents: treat all students as capable learners; create a collaborative climate of inquiry; build on students' interests and curiosity; tap into students' knowledge and experience; and harness adolescents' preference for social interaction to serve academic goals (HER, 2008; Kamil, et al., 2008; Greenleaf, et al., 2001). To meet adolescents' academic needs, we must transform high school subject area classes into collaborative, inquiry-oriented learning environments that challenge students intellectually while helping them build their skills in high level literacy (Shoenbach & Greenleaf, 2008).

**Exceptional approach** – WestEd's Strategic Literacy Initiative (SLI) proposes to address the persistent achievement gaps in our nation's high schools by broadly disseminating the *Reading Apprenticeship (RA) model of academic literacy instruction that has been proven to transform*

*subject-area instruction and increase adolescents' literacy engagement, academic identity, and achievement.* The project addresses *Absolute Priority 3—Innovations that complement the implementation of high standards and high-quality assessments.* We propose to build the capacity of teachers and LEAs to equip struggling readers, ELLs, and other students with the academic literacy skills and self-confidence necessary to meet rigorous standards as measured by aligned high quality assessments.

Since 1995, SLI has developed the RA model through a recursive R&D process working collaboratively with hundreds of educators across middle and high schools and, most recently, community colleges. Typical instructional strategies for struggling readers involve simplifying, slowing the pace, and often abandoning more rigorous course work with the tacit understanding that the students are simply not capable of performing at grade appropriate levels of rigor, virtually assuring low levels of achievement for students who are already behind (Dweck & Molten, 2005). In contrast, the RA model is based on research showing that most students are capable of complex thinking and carrying out scientific, historical, and literary inquiry but have not been given the skills or self-confidence to approach these tasks effectively (Greenleaf, et al., 2001; Langer, 2001; Lee & Spratley, 2010; Moje, 2008). Unique among literacy programs, RA addresses students' motivational needs while building skills and knowledge for subject-specific literacy tasks, strengthening students' view of themselves as readers and learners, and yielding strong, documented gains in student achievement.

Based on the RA framework, our uniquely designed professional development transforms teachers' understanding of their role in adolescent literacy development and builds enduring capacity for literacy instruction in the academic disciplines (Greenleaf & Schoenbach, 2004). RA professional development is inquiry-based, subject-area focused, and designed to address teachers' conceptual understandings as well as practical implementation needs. Teachers participate in carefully designed inquiries to help them unlock their own disciplinary expertise in relation to literacy. They learn to identify the features of disciplinary texts that might present stumbling blocks to learners. In professional development sessions, they practice with classroom routines to build student engagement, support student collaboration, and foster authentic discussion and

problem solving around course texts. Most importantly, they gain new expectations of what their students can accomplish and learn new ways to support students' thinking and learning with academic materials. By implementing RA routines, they transform their classrooms into engaging, intellectual learning spaces.

In RA classrooms, reading instruction is integrated into content-area teaching, rather than being an instructional add-on or additional curriculum. Students are given extended opportunities to read with instructional support, both in assigned texts and in curriculum-related materials of choice. Through an “apprenticeship” process, content-area teachers explicitly teach students the tacit reasoning processes, strategies, and discourse rules that shape successful readers' and writers' work. Instructional routines help students to: clarify content, discuss the processes they use in reading and problem-solving, practice comprehension strategies, respond to and elaborate on content, engage in word learning strategies, write to learn and to consolidate learning via formal essay writing, and make connections to other related texts. RA teachers attend to students' affective and identity issues, creating relevant and affectively safe learning opportunities that help students become better disposed to engage in academic tasks, discipline-based literacy practices, and inquiry, and to develop identities as resilient learners.

RA is aligned with the principles of the nationwide Common Core Standards Initiative. These new standards specify the advanced literacy skills and understandings required for college and career readiness in history, social studies, and science as well as English language arts. Through RA professional development, teachers learn to prepare their students to meet the high-level language arts standards described in the Common Core Standards across the English, science, and history/social studies curricula. In particular, they learn how to build students' capacities to carry out close, intellectually engaged reading; make meaning; acquire academic and disciplinary language; read independently, and set personal goals for literacy development. RA professional development gives teachers the tools to help students achieve high academic standards.

**Project design, goals, and outcomes** – SLI, in partnership with the following LEAs - Indianapolis Public Schools, Indiana; Livingston and Washtenaw County Intermediate School Dis-

district, Michigan; Intermediate Unit 20, Pennsylvania; Ogden City Schools, Utah - is applying for a **validation grant** to ambitiously scale RA in four states: Indiana, Michigan, Pennsylvania and Utah. SLI and our partner LEAs propose to provide professional development for 2,800 teachers, reaching 410,000 students in 300 schools across these States. Additionally, we propose to develop 240 RA leaders during the five-year grant period. Although SLI has built a substantial following in partnering LEAs, ***RA has not yet been widely adopted in these regions. Additionally, the intensive high school subject area RA intervention, proven to be effective in the studies reviewed below, has not yet been widely implemented beyond the study sites.***

The project will focus on schools that serve large numbers of high-need students. For example, Indianapolis Public Schools (IPS) serve approximately 9,000 high school students, 60% of whom are African American, 10% Hispanic, 10% ELLs, and 63 – 79% economically disadvantaged. In 2008-09, the 9<sup>th</sup> grade pass rate on the ISTEP test of English language arts ranged from 22-39% at various high schools, and only 44-60% of students in the district graduated within four years. Ogden City Schools, UT serve approximately 3,000 high school students, 47% of whom are Hispanic, 17% English learners, and 62% economically disadvantaged. (see Appendix H.1 for demographics for this consortium of LEAs).

The logic informing our project design, as shown in Figure 1, is as follows: Discipline-specific professional development in RA will enable high school teachers of ELA, biology, and U.S. history to integrate academic literacy instruction into ongoing content area teaching, thereby increasing the quality of students' literacy learning opportunities, leading to increased academic engagement and achievement, especially for high needs students. We will provide RA professional development to nine teachers per school, including three teachers from each subject area: 9<sup>th</sup> grade ELA, 9<sup>th</sup>/10<sup>th</sup> grade biology, and 11<sup>th</sup> grade U.S. history. Each subject area teacher will receive 10 days (60 hours) of subject-specific professional development over two years, with implementation support between sessions. The professional development will draw from WestEd's extensive toolbox of curriculum examples, lesson models, support materials, classroom videos, and assessments to support implementation. RA leadership development coupled with the support, knowledge, and resources of our LEA partners will enable a consortium of participating

LEAs in each region to develop leadership at the classroom and district level, building internal capacity to sustain, support, and further disseminate RA implementation. RA leadership development draws on recent understandings of the vital roles played by deep internalization of new practices by teachers (Coburn, 2003) and local buy-in and ownership in sustaining reform (Bryk & Schneider, 2002; Spillane, Reiser, & Reimer, 2002). Our plan includes the preparation of RA leaders in each of the partnering LEAs to sustain program implementation beyond the funding period.

The goals for this project are:

Goal 1: To transform academic literacy teaching and learning in high school subject areas so that students are able to achieve to high standards.

*A. Teachers at RA sites will increase the academic rigor of their courses and degree of instructional support for all students by enhancing students' capacity to read and comprehend academic texts; creating collaborative, intellectually engaged classrooms; and mentoring students in effective discipline-based reading and reasoning processes; compared to their counterparts in control sites. Total teachers trained: 2,800*

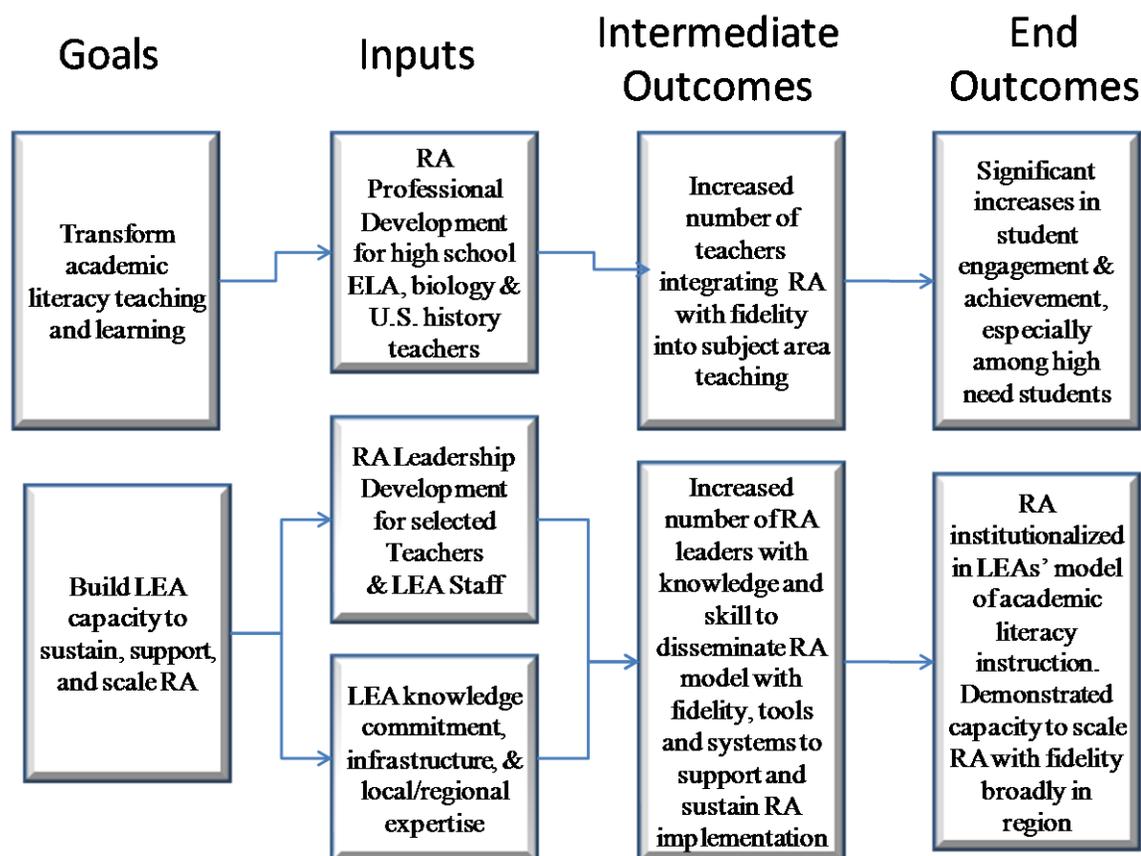
*B. Students at RA sites will improve their academic engagement and achievement in relation to control students, showing gains in reading comprehension as well as English language arts, history, and biology. Students at RA sites will also demonstrate greater engagement and self-efficacy with academic reading as compared to control students. Schools implementing the RA innovation will have higher course completion rates in target subject areas and greater percentages of students on track for graduation. Total students impacted: 410,000*

Goal 2: To build LEA capacity to disseminate, support, and sustain academic literacy improvement in high school subject areas within and beyond their regions.

*Participating LEAs will sustain improvement of academic literacy proficiency in their schools and districts and become resources for scale-up beyond their LEAs. District literacy and curriculum leaders and subject area RA leaders will be trained in RA facilitation. LEAs will receive tools and systems for sustaining and further disseminating the RA innovation.*

Total leaders trained: 240

**Figure 1: RA Validation Project - Logic Model**



**Supporting evidence** – As described in Section B: Strength of Research, three multiyear *experimental studies provide moderate to strong evidence* of the effectiveness of the RA model in strengthening teacher practices and improving both student literacy skills and student achievement in 9<sup>th</sup>/10<sup>th</sup> grade biology, 11<sup>th</sup> grade U.S. history, and a 9<sup>th</sup> grade literacy course. These studies also show positive effects on students’ achievement, motivation and engagement and that English learners benefited disproportionately from RA instruction. The requirements of these experimental studies limited RA professional development and implementation to only one or two teachers in a school. However, recent research on adult learning indicates that efforts to implement and sustain innovative instructional practices in a school are most effective when teachers receive the on-site support of colleagues with whom to share resources and problem solve about implementing new practices (DuFour, 2004; Marzano, 2003). Qualitative case studies also indicate that students benefit more from increased dosage of RA instruction, i.e., at several grade

levels and/or subject areas (See Section C2). Therefore, our proposed project, while very similar in design to the prior rigorous studies, plans to increase implementation from two to nine RA-trained teachers per school, and situate the intervention across the core high school subject areas: 9<sup>th</sup> grade ELA, 9<sup>th</sup>/10<sup>th</sup> grade biology, and 11<sup>th</sup> grade U.S. history. Based on the research, we expect that *increasing students' exposure to academic literacy instruction will increase the effect size of the gains documented among students in isolated RA intervention classes.*

### **B. Strength of Research, Significance of Effect, and Magnitude of Effect**

Since 1995, SLI has conducted nine research studies to evaluate the effectiveness of RA. These studies collectively suggest that the RA intervention proposed in this application effectively improved student achievement on state-mandated criterion referenced tests in English language arts, reading comprehension, and science. These studies have also demonstrated strong positive effects on various intermediate variables of teacher practice emerging from the RA professional development – most notably, teachers' increased use of reading comprehension instruction, metacognitive inquiry routines, and collaborative learning structures in their classrooms. Three of the studies utilized a strong experimental design (Greenleaf, et al., 2009; Corrin et al., 2008; & Greenleaf, Schneider, & Herman, 2005). Several studies used a quasi-experimental design with varying levels of rigor (Greenleaf, et al., 2001; Greenleaf, 2002; Greenleaf, Litman, & Braunger, 2004; Greenleaf & Shoenbach, 2001), and the balance of the studies used a variety of qualitative methods, primarily case studies (Strategic Literacy Initiative, 2004; 2009). Several of these studies have demonstrated strong internal validity along with moderate to strong evidence that the intervention had a statistically significant, substantial, and important effect on improving student achievement. (See study outcomes in Table B.1 below.)

**NSF Study: RA in high school biology** – In a multi-year (2005-2008) study funded by the National Science Foundation, Greenleaf et al. (2009) investigated the impact of the RA intervention on high school biology instructional practices and student achievement in 48 low-performing California high schools that served a high proportion of African American, Latino, English learner, and low-income students. A true, group-randomized, experimental study was

**Table B.1: Previous Experimental Design Studies**

<b>Randomized Controlled Trial</b>	<b>Number of Schools, Teachers, Students</b>	<b>Subject Area</b>	<b>Grade Level</b>	<b>School Demographics</b>	<b>Effect Size Student Academic Performance</b>
NSF (2005-08)	48 schools 60 teachers 5,346 students	Biology	9 <sup>th</sup> /10 <sup>th</sup>	All at urban or urban fringe schools with high numbers of low-performing, low-income, minority, and EL students	0.23 – 0.28
IES (2006-10)	90 schools 124 teachers	Biology & U.S. history	9 <sup>th</sup> /10 <sup>th</sup> , 11 <sup>th</sup>		Not yet available
IES (2005-08)	34 schools 34 teachers 5,593 students	Academic literacy in ELA	9 <sup>th</sup>		0.14

designed to control for most threats to internal validity (Cook & Campbell 1979, Murray 1998). Participating high schools and the teachers within them were randomly assigned to the RA professional development treatment or a wait-listed control group. Teachers in the treatment group received 10 days of professional development in RA, specific to science, along with ongoing support via a listserv. Both intervention and control group teachers received classroom libraries linked to the high school biology curriculum. More than 100 teachers from 83 pair-matched schools were recruited to be in the study in year one; 60 teachers in 48 schools remained in the study by the end of year two. Overall, intervention and control group teachers showed a high degree of similarity before the intervention, with few meaningful differences in school performance and demographic characteristics. Independent evaluation partners conducted all data analyses. For teacher outcome data, researchers used analysis of covariance (ANCOVA) to detect treatment effects on teachers’ use of various strategies. The investigators used multi-level models (Bryk & Raudenbush, 1992) to analyze the effectiveness of RA on student achievement on state-mandated criterion referenced tests in biology, English language arts, and reading comprehension. The study authors found statistically significant increases in treatment teachers’ support for science literacy learning, reading comprehension instruction, use of meta-cognitive inquiry routines, and use of collaborative learning structures compared to teachers in the randomly assigned

control group. The effect sizes for teacher outcomes ranged from 0.61-1.47 standard deviation units, which indicate a large magnitude of difference in instructional practice, and therefore students' opportunities to learn, between the treatment and control groups (Cohen, 1998). Importantly, robust changes in instruction resulting from the professional development intervention were linked to improved academic engagement and achievement for students. Researchers evaluated standardized test data for a total of 5,346 students served by the participating teachers.

***Students in the treatment schools performed significantly better than their counterparts in control schools on all standardized state assessments studied:*** English language arts (ES = 0.23), reading comprehension (ES = 0.24), and biology (ES = 0.28). The range of effect sizes from 0.23-0.28 demonstrates ***an educationally meaningful magnitude of difference between the intervention and control groups***. According to Hill et al (2008), a year of reading growth at the high school level has been estimated to produce a magnitude of change of approximately 0.19. This indicates that students in RA biology classrooms were on average more than a year ahead of those in the control classes in their English language arts, reading comprehension, and biology knowledge by the end of the year. Effect sizes were greatest for English Learners and white students. Moreover, ***estimated effect sizes for English learners in intervention classes ranged from 0.34 to 0.43*** standard deviations on items related to frequency of reading in biology, instructional integration of biology and literacy, perceptions of their abilities as students, and confidence in their ability to read science, compared to control students.

**IES Study: high school science and history** – In an ongoing (2006-2010) study funded by the U.S. Department of Education's Institutes of Education Sciences (IES), Greenleaf, Schneider, and Herman (2005) expanded the teacher population to include both science and U.S. history high school teachers to investigate the impact of the RA professional development intervention on content-area instructional practices and student achievement in 90 low-performing California and Arizona high schools that served high proportions of African American, Latino, and English learner students. The study utilized a group-randomized experimental design to randomly assign participating high schools and the teachers within them to the RA treatment or control group. Teachers in the treatment group received 10 days of professional development with examples

specific to their subject area, along with an on-line listserv to provide ongoing support for implementation. The control group was exposed to any teacher professional development opportunities offered in their schools (business as usual). By year four of the study, there were 124 teachers actively participating, with a slightly larger number of biology teachers than U.S. history teachers (Greenleaf, 2008). The student population consists of 9<sup>th</sup>/10<sup>th</sup> grade biology and 11<sup>th</sup> grade U.S. history students. As the study is in progress and expected to be completed in 2010, only preliminary findings on teacher and student outcomes exist (Greenleaf, 2008). However, *there are significant findings from the analysis of teacher surveys and lesson assignments, with large effect sizes of 0.8-2.2 standard deviations* that indicate that treatment teachers show greater support for subject-area literacy learning, and greater use of meta-cognitive inquiry routines, reading comprehension instruction, collaborative learning structures, and support for reading engagement compared to teachers in the randomly assigned control group. Analyses of student achievement using state-mandated criterion referenced tests have not yet been performed, but *preliminary analyses found that U.S. history students in treatment classrooms showed significantly greater content knowledge and use of reading strategies* on knowledge tests related to World War II than the control group. Because the positive effect sizes on the intermediate variable of teacher practices in this study parallel those seen in the NSF study, it is expected that the intervention has yielded a correspondingly large magnitude of difference in academic achievement between students in the intervention and control groups.

**IES study – high school academic literacy course** – In the IES-funded Enhanced Reading Opportunities study (2005-2008), Corrin et al. (2008) studied the effect of the Reading Apprenticeship Academic Literacy (RAAL) course offered to struggling 9<sup>th</sup> grade readers as a second class period of English language arts in a three-year group-randomized experimental study. At 34 high schools in 10 school districts, a total of 5,593 9<sup>th</sup> grade students reading two to five years below grade level were randomly assigned to enroll in the RAAL intervention class or a regular elective course. The *What Works Clearinghouse has cited this study as a well-implemented randomized controlled trial, consistent with WWC evidence standards (IES 2009)*. Study findings demonstrated that *students in the RAAL course improved their reading comprehension*

*test scores with an effect size of a 0.14 standard deviations (p-value = 0.015) compared to those in the control group* in these same schools, equivalent to a 33% additional improvement over what they would have achieved had they not had the intervention. Follow-up data also suggests that *the RAAL course had a lasting positive impact on students' engagement in school*.

We have compiled extensive additional evidence of the effectiveness of the RA model in improving student achievement. We highlight some of this evidence deriving from our quasi-experimental and case studies in Section C. Experience of the Eligible Applicant, below.

Overall, we have *moderate to strong evidence that RA professional development strengthens specific areas of instruction and improves student achievement in both literacy and content area skills and knowledge, with effect sizes for achievement that constitute educationally meaningful gains*. In addition, our studies demonstrate a moderate degree of *external validity*, that is, the RA intervention has been tested in multiple and varying contexts with diverse student and teacher populations, moderately large sample sizes, and different subject areas. Since we are now proposing an intervention by which students will be exposed to RA in multiple academic content areas and at multiple grade levels rather than in just a single classroom, *we hypothesize that the effect size on academic achievement will increase to 0.40, a magnitude greater than the effect sizes achieved thus far, and we have designed an evaluation study to test this hypothesis*.

### **C. Experience of the Applicant**

**Past performance implementing complex projects** – Beginning in 1995 as a teacher-research collaborative working with 20 high school teachers to investigate and address the sources of high school students' reading difficulties, SLI's RA project has grown exponentially to provide professional development and consultation services in adolescent and academic literacy nationally. Since its inception, the RA instructional framework has been implemented in LEAs in 34 states. Over 77,000 teachers and 1,000 RA leaders nationwide have participated in RA professional development. Through leadership development and the certification of professional development consultants, the project manages multiple summer professional development institutes, annual national conferences, and delivers site-based professional development services

under contract to LEAs around the country. With the investment and support of local and national education foundations, SLI has steadily built the reach and impact of RA, managing rapid and exponential growth over the past 15 years.

While managing this growth, SLI Co-Directors Ruth Schoenbach and Cynthia Greenleaf have simultaneously published and presented the RA model broadly to education audiences, thereby influencing the field of adolescent and disciplinary literacy and building the visibility of this innovative approach (see Vitae, Appendix C). RA has received widespread recognition for its unique characteristics and effectiveness by leaders in the field, as the many publications citing it attest (e.g. Biancarosa & Snow, 2004; Deschler, et al., 2007; Lee & Spratley, 2010; Snow, Griffin & Burns, 2006). To support RA implementation and professional development activities, the extraordinarily productive SLI home office has developed an extensive library of professional development resources, curriculum examples, assessment tools, videotapes of multidisciplinary classroom implementation serving a broad range of students with high needs, and facilitation guides that support professional developers to lead teacher learning with fidelity.

Finally, the SLI team has engaged in three large-scale RCT studies of RA. The Co-Directors have been involved as the program developers and implementation team charged with delivering quality products and services on a rapid timeline. They have also acted as Principal Investigators and Co-Principal Investigators on the research studies. Thus they have simultaneously advanced teaching RA methods and learning about the efficacy of those methods. For the past four years, Greenleaf has managed two large federally funded research studies, including supervising the professional development team, instrument development, coordination of data collection, management and coordination of external research and evaluation partners. During the National Science Foundation project, the professional development was provided to 60 high school teachers from 48 schools in 38 LEAs to implement RA in classrooms serving a total of 5,346 students over a two-year period. Our IES-funded 2006-2010 study reached a cohort of 124 teachers at 90 schools in 46 LEAs. Our ability to carry out these two studies as well as another large-scale IES-funded study (see Section B) over the past five years, with some teacher cohorts from multiple studies being trained simultaneously, further demonstrates our capacity to implement complex,

large-scale projects. The proposed project will draw on this extensive experience and preexisting research instrumentation in planning, developing partnerships, coordinating with official partners, data collection, and preparing for formative and RCT evaluation activities.

As an agency, WestEd also has developed systems and processes, such as financial management and quality assurance, to support the management of large, complex and rapidly growing projects. WestEd currently manages a multitude of such projects including a Regional Educational Laboratory, two Regional Comprehensive Centers, a national Content Center, and multiple national evaluations, providing research and technical assistance services to over 30 states.

**Improvement of student achievement, attainment, or retention through work with LEAs** – In Section B: Strength of Research, we presented examples of how SLI has worked with LEAs to achieve statistically significant, substantial, and important improvements in student achievement in both literacy and academic content areas at the high school level. Here, we provide selective examples of our extensive additional evidence of the effectiveness of the RA project in improving the achievement of high-needs students through our work with LEAs:

- In 1996-99, a 9<sup>th</sup> grade RA Academic Literacy course was implemented at an inner city high school in San Francisco, where 43% of students were classified as educationally disadvantaged. A total of 216 students, who were scoring, on average, two years behind grade level on the Degrees of Reading Power (DRP) test, took the course. The students gained an average of two years growth on the DRP in only seven months of instruction. A follow-up study showed those same students, now in 10<sup>th</sup> grade, had gained over a year of growth at their independent reading level. These findings suggest that the intervention in 9<sup>th</sup> grade continued to accelerate students' reading growth into 10<sup>th</sup> grade (Greenleaf, et al., 2001; Schoenbach, et al., 1999).
- The RA model was implemented in 5<sup>th</sup> to 12<sup>th</sup> grade classrooms serving 1,898 students in Michigan in 2007-08. Scores on the DRP showed that students in RA classrooms achieved from two to 10 times higher growth on the DRP over the course of the year than students in those grades nationally. A comparison of two 9<sup>th</sup> grade RA classrooms to two non-RA classrooms in the same county found effect sizes of 0.15 standard deviation units in one of the comparisons and 0.24 in the second one. (Strategic Literacy Initiative, 2009).

- In a 2001-02 study of RA at seven public high schools in Los Angeles, students' reading levels on the DRP rose from a mean of 47.02 in fall to 52.85 in spring, a 5.83 point gain, compared to the expected yearly growth at the high school level of between one and two units. A sub-cohort of English learners made mean gains of 4.89 points, and those classified as bilingual made mean score gains of 5.45 (Greenleaf, 2002).

Case studies of RA classrooms further suggest that exposing students to RA in either multiple content area classes or in a sustained fashion over time will yield strong effect sizes in raising academic achievement for high-needs students. For example, Dixon High School in Solano County, California, which serves high numbers of Latino, socioeconomically disadvantaged, and migrant students, implemented RA in classrooms school-wide. Over the next two years, the school greatly exceeded its Academic Performance Index (API) growth targets under No Child Left Behind, achieving even greater API gains for Latino and low socioeconomic status students (Strategic Literacy Initiative, 2004). In this school, classroom case studies utilizing pre/post DRP testing found that students who were enrolled in multiple classrooms in which teachers were implementing RA, or had the benefit of such instruction for two sequential years, showed substantial benefit from this increased exposure to the model (Greenleaf, Litman & Braunger, 2004).

Academy for Educational Development (AED), the independent evaluator and an Official Partner for this project, also has a substantial record of experience working with LEAs to increase the achievement of high needs students (see Appendix H.2 for AED's eligibility).

#### **D. Evaluation**

**Rigorous independent evaluation** – AED and Empirical Education (EE) will conduct a rigorous, third party, random assignment evaluation of the RA model. The study will seek to obtain reliable evidence of the program's effect on literacy instruction and literacy outcomes among high need students and to determine the degree to which RA improves their ability to achieve rigorous academic standards. The impact evaluation will address the following overarching research question: *To what extent does the implementation of the RA instructional framework and professional development model improve literacy instruction, change high school students' reading behaviors, and increase academic achievement in science, history, and read-*

*ing such that students achieve to high standards?* It will determine the impact of RA on: 1) teachers' ability to integrate disciplinary literacy practices and explicit literacy instruction into high school biology, U.S. history, and ELA classes; 2) students' reading behaviors, attitudes, and strategies, including reading persistence and the ability to implement problem solving and comprehension strategies; 3) students' academic achievement in ELA, biology, and U.S. history; and 4) students' academic attainment, course performance, and retention in high school. We propose to answer these questions through a group-randomized trial involving LEAs in IN, PA, & UT, accompanied by a thorough implementation study in all four regions, providing formative feedback designed to both inform the analysis of the program effects and improve the program model and its implementation.

**Formative evaluation** – EE will conduct an implementation study and provide formative feedback data to assess progress toward project goals. Planned data collection will enable evaluators to 1) document the scale-up of the RA intervention in the four states/regions, 2) identify contextual variables impacting program implementation at regional scale-up, and 3) assess implementation fidelity, including trainer alignment to teacher professional development protocols and teacher alignment to the RA framework for academic literacy instruction. Implementation data will be collected at training, classroom, building, and district levels. A key outcome of the implementation investigation is a well-documented process with benchmarks and key elements enabling others to replicate the model from inception to scale-up.

**Group-randomized design** – To estimate the effects of the RA model on teacher practices and student outcomes, we will recruit a sample of 40 high schools that have not previously participated in RA professional development and that have significant populations of high need students to participate in the evaluation. AED will randomly assign 20 schools to a program group that will receive SLI RA intervention, and 20 schools to a control group that will not implement the program (i.e., business as usual). Table 1 (Appendix H.3) describes the basic experimental design. At each program school, RA facilitators will provide professional development and support for the implementation of the RA model in 9<sup>th</sup> grade ELA, 9<sup>th</sup> or 10<sup>th</sup> grade biology, and 11<sup>th</sup> grade U.S. history. The schools in the control condition will be wait-listed for the intervention

and refrain from implementing the RA model for three years. In each year of the evaluation, the evaluation team will estimate program effects by comparing instructional practices, teacher knowledge, student reading attitudes and behaviors, and academic achievement and attainment among students in the relevant classes in the program schools to the outcomes of students in the same classes at the control schools. The differences between program and control group outcomes will represent a reliable, unbiased, estimate of the effects of the RA program model.

**Estimating program effects** – To avoid “spillover” of the treatment from the program to control groups, random assignment will occur at the school level, minimizing the possibility that students and teachers from the control group will be exposed to the RA program. To account for the fact that student outcomes tend to vary with (or be “clustered” in) classrooms and schools, AED will estimate the impacts in a three-level hierarchical model, with program impacts estimated at the third, or “school” level of the model. The primary analysis will focus on separate estimates for the effects of Reading Apprenticeship in 9<sup>th</sup> grade ELA, 9<sup>th</sup> or 10<sup>th</sup> grade biology, and 11<sup>th</sup> grade U.S. history. At each participating school, prior to random assignment, the study team will recruit three teachers per target course for participation in the project. Teachers and students from these courses will be the focus of the analysis. The analysis will compare average outcomes among the students enrolled in the target courses at the intervention schools to average outcomes among the students enrolled in the courses that *would have been* the target courses at the control school. The analysis will also explore program effects for specific sub-groups including students eligible for free and reduced price lunch, African-American students, students with low prior academic achievement, particularly in ELA, and ELLs.

**Cumulative effects of the course sequence** – A major aspect of the proposed innovation is to implement RA in a sequence of courses. Therefore, an important question for this evaluation relates to the cumulative effects of participating in the entire sequence of RA courses in the intervention. The design will yield an estimate of the program effect for students who receive the “full” RA treatment (i.e., all three courses), recognizing that receipt of the full course sequence depends on a set of post random assignment decisions made by students and schools.

Table 2 (Appendix H.3) illustrates the progress of the three different cohorts through the

evaluation. In the 2011-2012 school year, the first cohort of 9<sup>th</sup>, 10<sup>th</sup>, and 11<sup>th</sup> grade students (cohort “A”) will participate in the study. By the third year of the study, the 9<sup>th</sup> graders from cohort A that remained in the program schools and progressed through the courses on time and in sequence will have received the full treatment. We will use the experiment as an instrument to predict participation in the full sequence of the program courses, and use these predicted values to estimate the relationship between student outcomes and the receipt of the full treatment sequence. This *instrumental variables analysis* essentially divides the estimated treatment effect by the difference between the percentage of program and control group students that participate in the full course sequence at the program schools (Gennetian et al., 2005). To the extent that the program has an impact on retention and promotion, it is likely that the program would increase the proportion of lower achieving students who either stayed in school or were promoted on time, potentially lowering average achievement outcomes in the treatments schools. Therefore, to the extent that any bias in our estimates of the cumulative effects exist, our approach is likely to generate estimates of the cumulative program effect that are moderately biased toward zero.

**Sample size and minimum detectable effects (MDE)** – At each high school, the RA team will recruit three teachers per course to participate in the study. We assume that each teacher teaches three sections of the relevant course, and that each section includes an average of 30 students. For each year, this yields a sample of 90 students per teacher and a total of 270 students per course, for each of 40 schools. Following the technique described by Bloom et al. (2007), we estimated the minimum detectable effects generated by this design, i.e., the smallest true effect that the design can detect with 80 percent confidence. In order to reduce the degree of unexplained variance and minimize the minimum detectable effects, we will collect both individual and school level prior achievement data. Based on the analysis conducted by Bloom et al. (2007), we assumed a school level r-squared value of .80 and an intra-class correlation of .15. Combined with the sample size above, this yields an estimated MDE size of .17 standard deviations. We believe this effect size is reasonable and appropriate given the intervention being tested. Appendix H.3 gives more detail about how MDE was calculated for this study design.

**Data sources and key measures** – The evaluation design measures outcomes related to the

goals of the project: (1A) teacher knowledge, practice, attitudes regarding literacy instruction; (1B) student attitudes and behaviors with respect to reading, and student achievement and attainment in reading/English language arts, biology, and U.S. history; and (2) implementation fidelity and contextual variables impacting the program to gauge LEA capacity for sustained improvement of academic literacy. The evaluation relies on several key sources of data utilizing established, reliable, and previously validated instruments (see a description of their psychometric properties, Appendix H.3) as well as district data including state standardized test scores. Table 3 (Appendix H.3) summarizes data collection for this study.

***Goal 1A: Measures of instructional impact***

Teacher surveys: Using instruments developed for previous studies of this intervention (Greenleaf, et al., 2009), EE will survey treatment and control group teachers in the summer preceding implementation of the program, and in the spring of each subsequent year to measure knowledge and attitudes toward literacy instruction and implementation of RA strategies.

Instructional logs: Based on the Teaching Assignment and scoring instruments developed and found valid and reliable by CRESST (Clare & Aschbacher, 2001; Matsumura, et al., 2002) and used in previous studies of RA, teachers will complete an on-line log documenting their instructional activity – materials used, pedagogical approaches, lesson structure, and student responses - for a randomly selected, target class period, once per quarter.

Classroom observations: Observation protocols developed by Horizon, Inc. ([www.horizon-research.com](http://www.horizon-research.com)) and adapted for previous studies of RA (Greenleaf, et al., 2009) will provide the basis for analyzing implementation fidelity. A random sample of teachers participating in the RCT will be selected for observation in equal numbers of program and control group classrooms within each district, with at least one teacher per subject area observed per school. Short semi-structured interviews will follow the observations to verify continuing participation and possible contamination and will provide an opportunity to follow up on any other issues that may have become evident in the surveys. In each scale-up region, a random sample of teachers will be selected for observation to profile implementation fidelity.

### ***Goal 1B: Measures of student impact***

Student surveys: To assess program effects on students' classroom literacy experiences, reading attitudes, and metacognitive strategies, the Metacognitive Awareness of Reading Strategies Inventory (Mokhtari and Reichard, 2002) will be administered to students in both program and control schools in the fall of the first year of the study and in the spring of years 1 – 3.

Student achievement: To develop a precise estimate of the effect of RA on literacy skills, the study team will administer the Group Reading Assessment and Diagnostic Evaluation, a norm-referenced test of reading comprehension, to program and control students in each course in the fall of the first year of the study and in the spring of years 1 – 3 of the study.

Student records: Evaluators will obtain student level demographic, course enrollment, course credit, promotion, and state test score data for grades 8 through 11, along with individual unique student identifiers that can be linked over time. We have situated the RCT study in IN, PA, and UT because these states administer state standardized tests in each of the target subject areas and grade levels. The evaluation team will use state test scores to assess program impact on students' attainment of state standards. Data will be collected for the two academic years prior to the study, and for each of the three program years. These data will be used to develop individual and school level controls for prior academic achievement and measure key program outcomes, including achievement in ELA, biology and U.S. history. Analysis will follow IES guidelines in combining test score data from different states for estimates of impact (May, et al., 2009).

### ***Goal 2: Measures of fidelity and capacity***

Documentation of professional development: A representative sample of training sessions (summer institute and follow-up sessions) will be observed to document the presentation of the RA model and to better understand issues that may affect implementation. In addition, training logs, surveys, artifacts and attendance records will be collected from all sites to document program activities and capture the level and kind of implementation support provided.

Documentation of leadership development: A representative sample of RA leaders will be followed to document the process of leadership development from initial training through ap-

prenticeship experiences to co-facilitation of professional development with Certified RA Consultants. Training logs, interviews, and observations will be used to document this process.

Focus group interviews and surveys: To capture key contextual variables affecting the implementation of the program at scale-up, EE will conduct interviews and administer brief surveys with district leaders, building administrators, and participating teachers. They will also collect and describe the use of artifacts such as district documents, teacher assessment tools, website or social networking sites, and other resources used to support RA implementation.

**Progress toward goals, capability, and resources** – Periodic collection of principal and teacher survey data, trainer logs, professional development observations, classroom observations, and district and teacher level focus group data will enable the evaluation team and the RA team to track on an ongoing basis the extent to which the RA model is being implemented as intended and the extent to which classroom practices and students’ opportunities to learn are changing in the ways that are expected. To facilitate progress monitoring, the evaluation team will provide quarterly reports and meet bi-annually with RA program staff. AED and EE are highly experienced evaluation agencies and widely recognized for their capacity to carry out complex evaluation of educational innovations. See Section G: Management for further description of evaluation staffing and capacity to carry out planned activities. The proposed evaluation is designed to yield high quality impact and implementation data, enable periodic assessment of the initiative’s progress toward its intended outcomes, identify key elements of the program, and ultimately provide reliable unbiased estimates of the effects of this endeavor on these outcomes to position the project for national replication and scale-up. [REDACTED]

## **E. Strategy and Capacity to Bring to Scale**

Our proposed strategy focuses on bringing RA to scale with the objective of helping high-needs students with varied needs to achieve rigorous academic standards in Indiana, Michigan, Pennsylvania, and Utah. We have chosen these states because of their expressed interest in and support for RA and because of our strong relationship with multiple LEAs within each State. Specifically, our “Official Partner” LEAs in these States are critical to our scale-up strategy.

These LEAs have a long history of working with RA, are strong advocates of the work, and are committed to working with SLI to scale the RA model within their States. These LEAs have already been instrumental in the recruitment of additional LEAs to participate in this project (see support letters in Appendix D), and will play key roles in supporting the RA implementation across the LEAs in their State. In addition, several "Other Partner" LEAs in these four states, particularly in PA will provide additional sites for scale up of the proposed program.

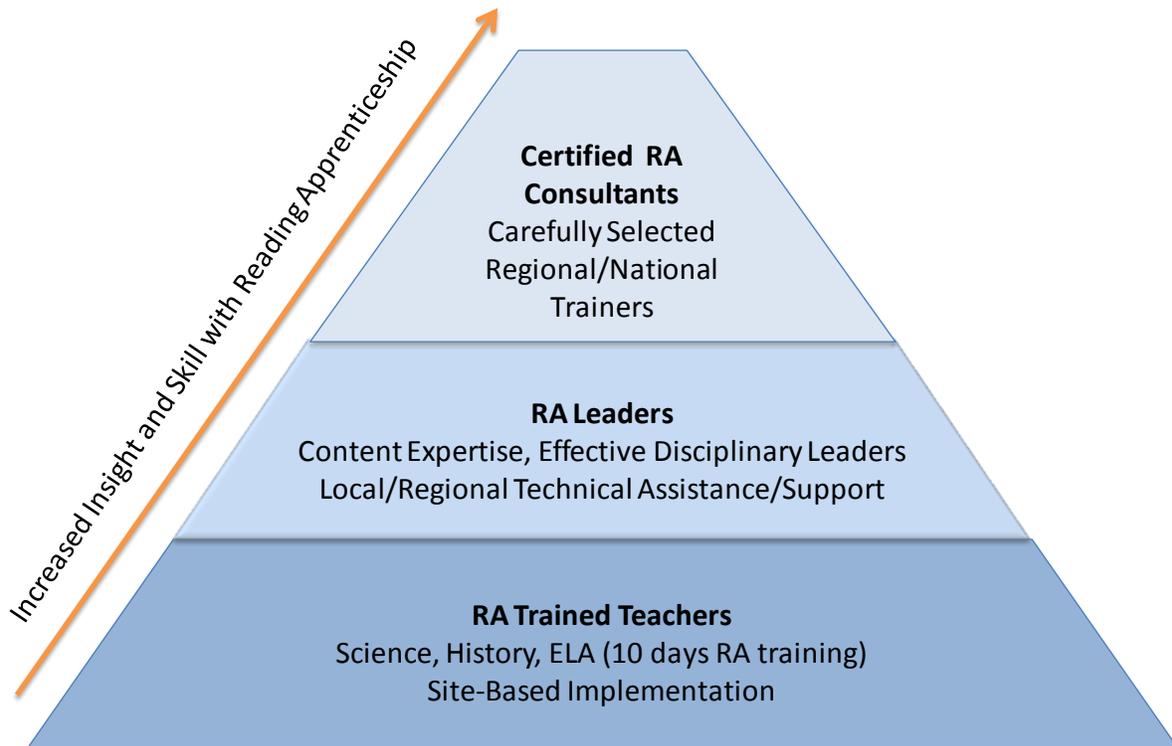
**Number of students to be reached by proposed project** – Across the four states, we estimate that we will be able to provide professional development for approximately 2800 teachers in 300 schools, reaching 410,000 students during the grant period. To build local capacity, we will also select and develop 240 RA leaders. Please refer to Appendix H.4 for the numbers of teachers, schools and students that we propose to reach in each state every year.

To ensure a critical mass of RA teachers within a school, we propose to train nine teachers (three each in 9<sup>th</sup> grade ELA, 9<sup>th</sup>/10<sup>th</sup> grade biology and 11<sup>th</sup> grade U.S. history) per school. For purposes of this projection, we assume an average of 1000 students in each high school, with 250 students in each grade level (grades 9-12). We also assume that the nine RA teachers (three in each grade level, grades 9-11) will be able to reach all the students in grades 9-11 (i.e. 750 students per school). Given that a new cohort of students will enter these high schools in every subsequent year of the study, we expect to reach an additional 250 students per school each year, and, as students advance up the grade levels, their exposure to RA will increase as they enter new subject areas with RA trained teachers. (We have budgeted to provide professional development to additional cohorts of teachers, as needed, to address teacher attrition or reassignment.) Since the project will build the capacity of LEAs to sustain RA implementation after the project's funding is expended, these are likely to be somewhat conservative estimates, based on the headcount of teachers trained directly by WestEd during the project period alone.

**Capacity to bring the proposed project to scale on a state or regional level** – Strategies for scaling social innovations vary depending on the relationship between a "center" and the sites where the innovation is to be replicated (Campbell, Taf-Pearman, & Lee, 2008; Dees, Battle-Anderson, & Wei-skillern, 2004). An effective scale-up strategy must maintain program quality

and manage the cost of expansion so that replication is feasible and sustainable. To balance the trade-offs between program quality and cost, we have chosen a scale-up strategy that relies on a rigorous process of leadership selection and development at the local and regional RA sites.

**Figure 2: Professional Development Pyramid**



As depicted in Figure 2, we will select and develop a number of promising teachers and administrators, RA Leaders, to expand the program in each district or region. Thus, within each RA site, we are able to build a cadre of locally-based, qualified personnel who can assist with scale-up efforts. We will carefully vet the RA leaders to ensure that we are selecting individuals who have demonstrated exemplary implementation of RA in their classrooms, who have the respect of their peers, and who show promise in using best practice adult education principles to develop the skills of other teachers. As a result of this strategy, while SLI’s involvement is critical in the early stages of a RA project (i.e. to build stakeholder support for the program, provide professional development for the first cohort of teachers, and develop a critical mass of RA leaders within the region), once local capacity is built, SLI’s support gradually diminishes. Developing local and regional RA leaders: 1) helps build capacity within a region; 2) keeps program costs

affordable by reducing travel costs and embedding trainers within existing district personnel; and 3) allows the program to be tailored (within fidelity parameters) to meet unique regional needs.

A few of the most qualified and effective RA leaders are invited to apply to become Certified RA Consultants. To become a Certified RA Consultant, candidates must demonstrate their skills with RA in the classroom and with professional development, develop a portfolio of lessons that demonstrate high level RA implementation, provide a written description of their motivation and capacity as a trainer, and successfully co-facilitate trainings with Certified Consultants for a period of time. Certified Consultants need to be recertified every two years. Having gone through such a rigorous selection, training, evaluation and certification process, these Certified Consultants may provide RA training and technical assistance under contract to WestEd and partner LEAs across the nation. To date, RA has identified and trained over 50 Certified Consultants across the country who hold or have held positions such as instructional leaders, literacy coaches and curriculum and literacy directors for LEAs and county offices of education.

The SLI team supports local RA sites by continuously developing and improving RA program/materials, by providing technical assistance, quality assurance at the RA sites, and research on RA, and by disseminating the RA model across the country. At the management level, Schoenbach and Greenleaf bring their expertise in research, professional development, program development and their pragmatic experience scaling-up the RA program. SLI employs expert staff developers who provide professional development, continuously refine and improve the program and support the field. SLI staff also assists with planning and management of multiple national institutes. In Pennsylvania and Michigan, the two states where we expect to expand most significantly, SLI will also employ local site-coordinators to assist with the fiscal and operational management of the scale-up effort. As a WestEd project, SLI is able to draw on the seasoned infrastructure (i.e. Human Resources, Finance, Contracts, IT, and Communications) and financial resources of a \$115 million, national organization with a stable funding base.

The considerable size of the current RA network relative to the lean 10 person SLI team, is a testament to the capacity built through RA leaders and Certified Consultants to expand and sustain the program across the country. The proposed project will allow us to expand our team of

RA leaders and Certified Consultants and build our capacity for broader scale-up of the model.

**Feasibility of project to be replicated successfully** –To ensure that the RA can be replicated successfully in a variety of settings, SLI has developed a number of high-quality resources including the following:

- ***RA training materials*** (e.g., facilitator and participant manuals) have been carefully developed and continuously improved since 1995 to document professional development methods.
- ***RA resource materials*** including student case studies, work, and interviews; RA teacher implementation work in varied subject-areas; assessment tools and rubrics; videos of classroom literacy interactions; lesson models; and demonstrations of RA teaching approaches.

In addition, as part of the validation grant, we propose to develop a ***web portal*** to provide RA teachers and leaders with a media rich, highly interactive, and cost-effective learning environment to reinforce face-to-face training. The web portal will give RA leaders access to materials that were used in the face-to-face trainings, as well as new materials to deepen their understanding in other areas. The web portal will support an ***online professional learning community*** of RA leaders to support one another’s practice and receive support from SLI staff. Webinars and discussions organized by subject matter will encourage RA leaders to communicate with one another. Ideas and artifacts of practice will be shared for formal and informal feedback from SLI staff and from peers. Finally, when new leaders join the project, the archived webinars and online training materials will allow them to get up to speed quickly. We will also create an RA teachers’ area in the web portal that will provide a place for teachers to access new materials and those that were used in their trainings, to maintain familiarity with content and tools, to share experiences between face-to-face events, and to participate in webinars and discussions organized by subject matter.

**Cost of the proposed project** – The estimated cost of the proposed project over five years is \$21,799,417, [REDACTED]

[REDACTED] In addition, teachers and LEAs will receive stipends for their data collection activities. Typically, the most significant start-up costs for a research-based professional development program like RA are development of training materials and resources. Because most RA materials have

already been developed, they are not included in our start-up costs. Thus the only significant development cost is for the online web portal. Direct operating costs include the teacher and RA leader training at each site (i.e. RA trainer salaries and travel costs, teacher stipends for attending the training, cost of training venues, supplies and materials), the cost of hiring a site coordinator, and the on-going cost of quality control management (salaries for relevant SLI home office staff and occasional travel) across all sites.

As Table E.1 (below) shows, costs per student decrease every year of the project, as start up and development costs decrease over time and the locally-based RA leaders assume increased responsibility for training teachers in their respective sites. We provide estimates of cost per student that include and exclude expenses associated with web portal development and the evaluation study, for comparison purposes. The table shows the cumulative number of students served by the project; thus by Year 2 we have reached over 100,000 students, and the cost has dropped to \$67 per student from an initial \$95. By Year 4, we have reached over 250,000 students with a cost per student of \$40. By the end of the five years, we will have reached nearly 410,000 students and the cost per student will have leveled off. To reach 500,000, we would anticipate this same per student cost of \$41.

**Table E.1: Cost Per Student Per Project Year**

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
Number of students served each year of the project	48,000	71,500	90,000	123,500	76,500
Cumulative number of students served	48,000	119,500	209,500	333,000	409,500
Estimated cost per year	4,549,221	4,786,380	4,954,917	4,951,042	3,156,822
Total cost per student/year	\$ 95	\$ 67	\$ 55	\$ 40	\$ 41
Estimated cost per year minus evaluation and development	2,046,412	2,416,122	2,622,282	2,911,778	1,509,681
Total cost per student/year minus evaluation and development	\$ 43	\$ 34	\$ 29	\$ 24	\$ 20

To forecast replication costs going forward for providing RA PD and leadership development to new LEAs, to reach 100,000, 250,000, and 500,000 students respectively, we assumed no new

development or rigorous evaluation costs to validate the model. We calculated the costs of SLI management and training, teacher and LEA leader participation in PD, and increasing FTE levels for LEA site coordination for increasing numbers of students. The cost estimates for scaling beyond the five-year validation project are as follows:

Number of students served	100,000	250,000	500,000
Estimated program cost	2,245,014	4,124,592	7,393,064
Estimated cost per student	\$ 22	\$ 16	\$ 15

We believe these are reasonable estimates for disseminating RA PD with high quality and fidelity, and involving investment in LEA leadership and capacity building. An independent cost analysis of the RA professional development model estimated a cost of \$9.10 to \$30.69 per student, depending on the intensity of project implementation and leadership development (Levin, Catlin, & Elson, 2010, p. 24-25).

**Mechanisms WestEd and SLI will use to broadly disseminate information** – As an organization that develops networks among practitioners, researchers, and policy makers, WestEd has highly regarded outreach services and award winning products that disseminate information about its projects to a broad range of audiences. As a key program within WestEd, SLI currently uses multiple mechanisms to disseminate information on RA, and will continue to use these strategies to support further development and expansion. These dissemination mechanisms include books and published articles, presentations in conferences such as the Council of Great City Schools, National Science Teachers Association, National Title I conference and others, articles in WestEd’s online and print publications, and our regularly updated website and blog. To date, one of the most effective ways by which we have disseminated information about RA has been through “word-of-mouth”; teachers who have been trained in RA sharing the information with their colleagues. We foster these efforts by supporting our committed base of RA teachers and leaders through the annual RA Winter Conference and our listservs. Lastly, as a recipient of several Department of Education research grants, we have been invited to present our findings in multiple venues and our work is featured on the Doing What Works adolescent literacy website.

## **F. Sustainability**

**Resources and support of stakeholders** – Over the past decade, SLI has been generously supported by WestEd and private foundations (e.g., Carnegie Corporation of New York and the Annenberg, Hewlett, Lumina, Stone, Stuart, and Stupski Foundations) to develop capacity to replicate and scale-up the RA program. We are in the process of working with Foundations to secure matching funds for the project. Support letters from Foundations (Appendix D) attest to their ongoing commitment to this work. These investments have enabled SLI to build discipline-specific models and tools, engage growing communities of educators, and develop leadership models to scale the intervention. We view the opportunity presented by this i3 validation grant as a critical next step in our efforts to expand our reach and impact across the nation.

Throughout SLI’s 15-year history, WestEd leadership has strongly supported the SLI team and the RA project as a proven model to support adolescent academic literacy. This institutional support has taken many forms, including providing growth capital and direct assistance with business strategy development as well as the dissemination of RA-related research, products and services. WestEd leadership has invested in the development of SLI’s robust scale-up plans and will continue to sustain this support beyond the period of i3 grant funding. Given the difficulty of securing growth capital across the nonprofit sector (Foster, 2008) SLI’s ability to use WestEd reserves to build its internal capacity to grow and to effectively manage cash flow during periods of high growth is a significant resource.

In addition to support from WestEd and our foundation partners, to date, we have been able to expand our reach significantly, thanks to the support and commitment of key stakeholders at the school, district, county and state levels. Given that much of RA takes place at the school and district level, this support is critical to the program’s sustainability beyond the grant period. As evidenced by the 4 letters of commitment from official partner LEAs and the 18 support letters from other partner LEAs in Appendix D, improving student literacy across high-school content areas is a key priority for our partner LEAs. In the words of one of our partners, RA “is not just another initiative that the [district] would undertake,” rather, it is closely integrated into the district’s overall strategy for improving student achievement, and it is supported both by teachers,

as well as by highest levels of district administration. During the grant period, LEA partners will contribute in-kind resources in the following categories: meeting space and equipment, district-level coordination and communication for project activities, and Title I funding to cover teacher stipends for professional development (Indianapolis). These investments further indicate our LEA partners' strong commitment to support and sustain RA implementation even beyond the grant period.

In implementing fundamental instructional change, teacher buy-in and ownership is key (Elmore, 1996; Bryk & Gomez, 2010). Because teachers have played a collaborative role in the cycles of RA design over time, RA translates easily to teachers and generates the teacher enthusiasm and advocacy that have driven the exponential growth of the RA model. Similarly, a report comparing RA to other literacy programs for adolescents concluded that “involving administrators and situating [RA] implementation in the subject areas has created collaborative cultures of literacy with extensive administrative support” (Levin, Catlin, and Elson, 2010). Over the years, we have also enjoyed increasing stakeholder support at higher levels of the educational system, such as County Offices of Education, Intermediate Units and State Departments of Education. While these groups are not always directly involved with the implementation of RA, they are able to use their own resources to convene teachers across multiple districts to build learning communities around RA, to provide technical assistance to schools and districts, and disseminate information about RA to schools and districts in their region. As shown in the letters of support from State Departments of Education, multiple intermediary organizations within these States, and administrator associations are all committed to ensuring the success and the sustainability of RA in their respective regions (see Appendix D).

**Incorporation into the ongoing work of applicant and partners** – Given SLI’s mission to help adolescents nationwide engage and succeed in rigorous academic work, the proposed project fits well into SLI’s current strategic plan (Appendix H.5). If this project is successful, then the logical next step for SLI would be to focus on expanding RA across more states, working towards national expansion. With the recent national focus on addressing adolescent literacy needs and embedding reading instruction in K-12 content areas, policy directions that are highly

consistent with RA’s approach to literacy, we believe that now, more than ever, we are well positioned to expand our work nationally. Specifically, in a time of tight state and district budgets, we are encouraged by the proposed increases in funding for adolescent literacy through the Literacy Education for All, Results for the Nation (LEARN) Act, the Striving Readers program, and the coming reauthorization of the Elementary and Secondary Education Act (ESEA)<sup>1</sup>. Further, with IES’s Reading for Understanding Research Initiative, we see a similar focus on adolescent literacy across the academic disciplines in the research arena.

The incorporation of RA into the ongoing work of our partners will vary as their local contexts and infrastructure varies. For example, based on conversations with key stakeholders in PA and MI, we see potential for significant long-term incorporation of the RA model at the state level. This is already in place to a limited degree in both states, with PA having selected Reading Apprenticeship as a key Response-to-Instruction and Intervention (RTI) strategy for Tiers I and II and MI selecting Reading Apprenticeship as one of the few approved “evidence-based interventions” that failing schools can adopt. In Indianapolis, district administrative support, teacher interest, and incorporation into the district literacy and improvement plan, signal strong potential for sustaining this work beyond the grant period. In Utah we are also quite hopeful about prospects for long-range incorporation of RA. The Utah State Superintendent of Instruction and his team have specifically expressed strong support for RA in Race to the Top planning meetings, and have made adolescent literacy one of the key elements of their reform agenda.

In short, we believe that the high-level of support from stakeholders at the school, LEA, COE and DOE levels will ensure the sustainability of RA implementation across the four states beyond the grant period. However, we are certainly aware of the impact of changes in LEA leadership on the sustainability of instructional strategies. In that context, demonstrated results at the student, instructor, and school levels are absolutely critical to sustainability. For this reason, the robust evaluation proposed for this i3 application is very important – establishing the impact

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<sup>1</sup> A Blueprint for Reform: The Reauthorization of the Elementary and Secondary Education Act, U.S. Department of Education, March 2010.

of RA on students and teachers with rigor and sufficient scale to help ensure that policy makers cannot change course easily. Ultimately, we believe that the pressures for academically rigorous instruction with complex disciplinary texts will continue to drive education decision-makers and practitioners to look to the kinds of transformative solutions RA represents.

### **G. Quality of the Management Plan**

In order to effectively manage the replication of RA in over 300 schools across four different states, we have designed a management structure that includes key personnel from WestEd as well as from our partner LEAs in each of the states (see Appendix H.6 for an organizational chart describing lines of management and supervision).

**Roles of key personnel** – As co-managers, Ruth Schoenbach and Cynthia Greenleaf will provide overall leadership, with Schoenbach responsible for managing the project timeline, budget, and key personnel and Greenleaf working closely with the external evaluation team. In working across the four states, Schoenbach and Greenleaf will be supported by a multi-site coordinator, who will maintain monthly contact with each site, including regular site visits to meet with key stakeholders to ensure that the project is progressing as planned and to address any state-specific issues. In Pennsylvania and Michigan, where we plan to reach the greatest number of schools (100+ schools in each state), we will also employ two full-time site-coordinators. The site coordinators will be responsible for communications and logistics between SLI and their sites, will provide direct support to the teachers, leaders and schools and will assist with dissemination and recruitment for scale-up across their states. In Indiana and Utah, where we plan to reach a smaller number of schools (32 and 24 respectively), an existing district staffer will take on the role of site-coordinator for the LEAs (Indianapolis, IN and Odgen, UT) where we will base the work; scale up beyond that single LEA will be led by a multi-site coordinator with assistance from that LEA’s site coordinator. While the multi-site and site coordinators will be responsible for overseeing RA implementation across the four states, three RA Lead Consultants will oversee all RA training for biology teachers, U.S. history, and ELA. In this role, they will:

- Ensure the quality of training for teachers in their respective subject areas
- Foster communities of learning among the subject-area teachers

- Work with the WestEd Interactive Team to develop the on-line portal resources
- Ensure quality for RA leader development process
- Plan an annual conference for RA leaders
- Make continued improvements to the professional development resources

These RA Lead Consultants will also oversee other RA consultants delivering discipline-specific RA professional development. The inclusion of key site-based personnel as well as three Subject Area RA Lead consultants in the management team will ensure that we are responsive to the needs of schools in each state, as well as to the needs of teachers in each subject area.

**Project timeline** – Critical milestones in Year 1 include holding subject specific RA institutes for biology, U.S. history and English teachers in all four states; recruiting and randomizing schools in preparation for the randomized controlled trial (RCT) and carrying out pre-tests and baseline assessments for the RCT; selection of RA leaders within each site; and developing initial on-line portal capacity for cross-site professional learning as part of the follow-up provided between professional development sessions. An additional milestone in Year 2 is the first of our four Annual Conference for RA leaders. Throughout the last three project years, we add the important milestone of RA leaders taking on increasing responsibility for leading subject specific RA professional development in their own and/or other LEAs, with a total of 240 leaders having a full cycle of development in this period. Please refer to Appendix H.7 for a detailed outline of project activities and milestones over five years.

**Qualifications of key personnel** – The resumes of key personnel are found in Appendix C. Due to space constraints, the bios below offer only short summaries of the high qualifications and experience levels represented in this very strong team.

*Ruth Schoenbach* has created and managed numerous complex and innovative educational projects over her 30+ years as an educational program developer and manager. Her work has included designing and managing professional development and publications for secondary teachers, college teachers and teacher educators using the RA framework; project management for the IES Enhancing Reading Opportunities study, developing strategic scale-up plans, and participa-

tion in national and international advisory groups and conferences related to adolescent literacy. Ms. Schoenbach holds an Ed.M. degree in Teaching, Curriculum and Learning Environments from the Harvard Graduate School of Education.

*Cynthia Greenleaf* has 25+ years of progressively ambitious leadership experience in designing tools and protocols for, and evaluating high quality literacy-focused professional development. Throughout this time, she has carried out a line of cumulative research and development and developed related presentations and publications that have required her to meet a complex mix of management and scholarly demands. Most recently, she has led the diverse team of professional development staff, research methodologists, and assessment specialists in rigorous RCT studies of the impact of RA professional development on high school students biology (NSF) and U.S. history and biology (IES) classes. She holds a PhD in Language and Literacy Education from UC Berkeley.

Greenleaf and Schoenbach are influential in the field of adolescent and academic literacy, have served on multiple national committees, and are frequently called upon for their expertise and leadership in the field. For example, the Common Core Standards cites Heller and Greenleaf (2007) in establishing a research base for literacy standards across the curriculum (NCCSSO & NGA, 2010b).

*Cathleen Kral*, who will work both as the Multi-Sites Coordinator and RA Lead Consultant for English language arts for this project, was Instructional Leader for Literacy and Literacy Coaching, K-12 for Boston Public Schools from 2000 to 2009, in a period which saw a significant increase in high school students' reading scores, coinciding with Ms. Kral's leadership of a coaching program there that used RA as the key model. *Kelly Pauling*, currently Director of Curriculum Services for IU 20, will serve as Statewide Site Coordinator for Pennsylvania. *William Loyd*, Coordinator of Instructional Programs for a highly successful two-county RA implementa-

tion initiative, will be the Statewide Site Coordinator for Michigan. Both Ms. Pauling and Dr. Loyd have decades of leadership experience, extensive connections throughout their local and statewide education communities, and deep knowledge of the RA model.

*Dr. Willard Brown*, who will serve as the RA Lead Consultant for the biology professional development, has led SLI's science and math work for the past three years, after implementing RA in his Oakland high school classroom for several years. *Gayle Cribb*, a veteran history teacher with extensive expertise in working with English language learners, will serve as the RA Lead Consultant for history. Dr. Brown and Ms. Cribb co-facilitated the biology and U.S. history Institutes for the aforementioned IES study.

*Robert Montgomery* will lead a team of content and media developers to establish and manage the web portal and accompanying high quality, video resources. Bob Montgomery is a Senior Project Manager on the WestEd Interactive team. He has supervised a number of high-profile web and media projects, providing clients with solutions to complex knowledge management and dissemination needs. He is currently working on several initiatives that integrate online technology and media with professional development activities. Montgomery taught science and technology for five years in a Bay Area public high school. As a former teacher-leader, Montgomery brings a deep understanding of classroom practice and school improvement issues to his work with interactive technology. Montgomery received an MA in social sciences in education from Stanford University.

Development of the web portal will also rely on the content expertise of *Gina Hale*, *Cindy Litman*, and *Lynn Murphy*, who bring to the project many years of curriculum and video development experience, designing tools and resources to support RA implementation.

The RA project team will benefit from several important advisors. *Robert Linqunti* of WestEd, a nationally-recognized expert on instruction and assessment for ELLs, will advise the

project leadership team on these issues over the course of the project. *Aylin Bell*, WestEd’s Senior Business Development Manager, and *pro bono* consultant *Roger King* will both advise Schoenbach and Greenleaf on strategic scale-up issues. Prior to joining WestEd, *Bell* was the Chief Operating Officer at a KIPP charter middle school in San Jose. Before KIPP, she worked as an organizational development consultant at Intellinex, a learning venture of Ernst & Young LLP, where she designed and implemented large-scale professional development programs for Fortune 500 companies. *Roger King* has worked with non-profits on strategy, going-to-scale, and organizational development since the early 1990s. He was a consultant with Bain & Company, an international strategic consulting firm, from 1983 to 1992.

*Dr. Jason Snipes*, Vice President and Director of the Center for Educational Research, Evaluation, and Technology at AED, will lead the project evaluation. Dr. Snipes currently oversees a broad portfolio of projects with the Southwest, Midwest, and Southeast Regional Educational Laboratories (RELs), including a large-scale random assignment study of the Alabama Math Science and Technology Initiative. Prior to coming to AED, Dr. Snipes served as the Director of Research for the Council of the Great City Schools and as Deputy Director for K-12 Education at MDRC where he led the evaluation design for several IES sponsored large-scale random assignment studies, including the Enhanced Reading Opportunities Study of adolescent literacy. Dr. Snipes holds a doctorate in public policy from Harvard University’s John F. Kennedy School of Government.

Dr. Snipes will direct a team of other highly experienced researchers at AED and EE and will convene an Evaluation Advisory Panel to provide guidance on both the summative and formative aspects of the evaluation plan (see resumes of evaluation staff qualifications in Appendix C).

**References cited** in this project narrative are listed in the Bibliography in Appendix H.8.